UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	**Applicant(s)**
Office Action Summary	10/732,741	CAO ET AL.
	Examiner	**Art Unit**	
	Peter Coughlan	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 October 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-9,11-36 and 38</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-9,11-36 and 38</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>12/10/2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Detailed Action

1.   This office action is in response to an AMENDMENT entered October 29, 2007

for the patent application 10/732741 filed on December 10, 2003.

2.   All previous Office Actions are fully incorporated into this Non-Final Office Action

by reference.

Status of Claims

3.   Claims 1-9, 11-36, 38 are pending.

Claim Rejections - 35 USC § 101

.4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine,
> manufacture, or composition of matter, or any new and useful improvement
> thereof, may obtain a patent therefor, subject to the conditions and requirements
> of this title.

Claim 1-9, 11-26 are unpatentable under 35 U.S.C §101 for computer related

nonstatutory subject matter. These claims contain 'computer readable medium' within

the preamble. In paragraph 0020, communication media which embodies computer

readable instructions can be 'modulated data signal such as a carrier wave.' Per the

MPEP section 2106.01, 'when nonfunctional descriptive material is recorded on some

computer-readable medium, in a computer or on an electromagnetic carrier signal, it is

not statutory since no requisite functionality is present to satisfy the practical application

requirement.'

The claims and/or the specification must be amended or the claims must be

withdrawn.

Claims 1-9, 11-36, 38 are rejected under 35 U.S.C. 101 for nonstatutory subject

matter. The computer system must set forth a practical application of that § 101 judicial

exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-

77. The invention is ineligible because it has not been limited to a substantial practical

application. Having two classifiers which classify is not a practical application. Any

function is considered a classifier, but without a practical domain, the claims and

specification remain an abstract concept. The result has to be a practical application.

In determining whether the claim is for a "practical application," the focus is not

on whether the steps taken to achieve a particular result are useful, tangible and

concrete, but rather that the final result achieved by the claimed invention is "useful,

tangible and concrete." If the claim is directed to a practical application of the § 101

judicial exception producing a result tied to the physical world that does not preempt the

judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101.

Receiving labeled and unlabeled data and training two classifiers based on this data

does not constitute a practical application.

The invention must be for a practical application and either:

1) specify transforming (physical thing) or

2) have the FINAL RESULT (not the steps) achieve or produce a

useful (specific, substantial, AND credible),

concrete (substantially repeatable/ non-unpredictable), AND

tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject

matter, must be amended.

The invention must provide a real world practical application and not an outline

which can be implemented in numerous applications. There must be a result that is a

practical application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form
the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

Claims 1-8, 11-12, 18-20, 22-36, 38 are rejected under 35 U.S.C. 102(b)

(hereinafter referred to as **Masuichi**) being anticipated by Masuichi, 'A bootstrapping

method for extracting bilingual text pairs.'

Claim 1

Masuichi teaches receiving labeled data (**Masuichi,** p1067, C2:42 through

p1068, C1:18; 'Labeled data' of applicant is equivalent to '100 pairs' of a training corpus

of Masuichi.); receiving unlabeled data (**Masuichi,** p1067, C2:42 through p1068, C1:18;

'Unlabeled data' of applicant is equivalent to '1000 English-Japanese patent text pairs'

of Masuichi.); constructing a first classifier and a second classifier using the labeled

data (**Masuichi,** p1067, C2:42 through p1068, C1:18; Construction of a first and

second classifier of applicant is equivalent to 'create an initial word space' of the initial

pairs of words of Masuichi.); performing uncertainty reduction comprising: selecting a

instances from the unlabeled data that are uncertain with respect to the first classifier

(**Masuichi,** p1068, C1:19-42; 'Unlabeled data' ... 'respect to the first classifier' of

applicant is equivalent to calculating '1000 English patent vectors' of Masuichi.); and

selecting instances from the unlabeled data that are uncertain with respect to the

second classifier (**Masuichi,** p1068, C1:19-42; 'Unlabeled data' ... 'respect to the

second classifier' of applicant is equivalent to calculating '1000 Japanese patent

vectors' of Masuichi.); labeling the instances uncertain to the first classifier using the

second classifier to form a first labeled set: and labeling the instances uncertain to the

second classifier using the first classifier to form a second labeled set. (**Masuichi,**

p1068, C1:19-42; 'Labeling the instances uncertain to the first classifier using the

second classifier' and 'second classifier using the first classifier to form a second

labeled set' of applicant is illustrated by 'Next we extracted the English-Japanese patent

pairs which satisfied the simple condition that the English patent vector in the pair has

(the biggest cosine) with the Japanese patent vector in the pair among the 1000

Japanese patent vectors and vice versa' of Masuichi.) reconstructing the first classifier

and the second classifier based on the first labeled set and the second labeled set

(**Masuichi,** p1068, C1:19-42; Reconstructing both first and second classifiers are done

by catenation the 10 mutual proximity pairs to the initial 100 translation pairs of

Masuichi.); and providing the reconstructed first classifier and the reconstructed second

classifier for use in labeling data. (**Masuichi,** p1068, C1:42 through C2:2; Providing the

reconstructed first and second classifiers of applicant is equivalent to the '110 English-

Japanese pairs' of Masuichi.)

Claim 2

Masuichi teaches receiving labeled data includes receiving data assigned to

classes and wherein receiving unlabeled data includes receiving data capable of being

assigned to classes. . (**Masuichi,** p1067, C2:5-29; 'Data assigned to classes' of

applicant is equivalent to 'n content bearing words' of Masuichi.)

Claim 3

Masuichi teaches reconstructing the first and second classifiers using at least the first labeled set. (**Masuichi,** p1068, C1:43 through C2:2; 'Reconstruction' of applicant is disclosed by the now increased '110 English-Japanese pairs' of Masuichi.)

Claim 4

Masuichi teaches selecting instances uncertain to the first classifier includes selecting instances of the unlabeled data as a function of uncertainty. (**Masuichi,** p1067, C2:5-29; 'Function of uncertainty' of applicant is disclosed by the cosine of the angle between the two vectors of Masuichi.)

Claim 5

Masuichi teaches selecting instances as a function of uncertainty includes calculating probabilities. (**Masuichi,** p1067, C2:5-29; 'Calculating probabilities' of applicant is disclosed by the cosine of the angle between the two vectors of Masuichi. The greater the cosine value, the lower the uncertainty probabilities.)

Claim 6

Masuichi teaches calculating probabilities includes calculating probabilities that the first classifier is unable to label some instances of the unlabeled data. (**Masuichi,** p1068, C1: 'Unable to label of applicant is illustrated by pairs which fall below the '10 most reliable mutual proximity pairs' of Masuichi.)

Claim 7

Masuichi teaches calculating at least one value of uncertainty used to select the instances uncertain to the first classifier. (**Masuichi,** p1068, C1: 'Value of uncertainty' of applicant is disclosed by the cosine between two vectors. The more elements which are common between the two vectors, the greater cosine value and a lower 'value of uncertainty')

Claim 8

Masuichi teaches selecting instances uncertain to the first classifier includes selecting instances having uncertainty values relative to a predetermined threshold. (**Masuichi,** p1068, C1: 'Predetermined threshold' of applicant is disclosed by only the '10 most reliable mutual proximity pairs' of Masuichi.)

Claim 11

Masuichi teaches exchanging information between the first labeled and the second labeled set to form at least one shared set. (**Masuichi,** p1068, C1:43 through C2:2; the formation of a 'shared set' of applicant is equivalent to 'English-Japanese pairs' of Masuichi.)

Claim 12

Masuichi teaches reconstructing the first and second classifiers using the at least

one shared set. (**Masuichi,** p1068, C1:43 through C2:2; 'Reconstruction' of applicant is

disclosed by the now increased '110 English-Japanese pairs' of Masuichi.)

Claim 18

Masuichi teaches selecting unlabeled data that is relatively certain with respect to

the first classifier. (**Masuichi,** p1068, C1:19-42; 'Selecting unlabeled data that is

relative' of applicant is equivalent to 'extract English-Japanese pairs' of Masuichi.)

Claim 19

Masuichi teaches selecting relative certain unlabeled data includes selecting the

most certain unlabeled data with respect to the first classifier. (**Masuichi,** p1068, C1:19-

42; 'Selecting unlabeled data that is relative which is most certain' of applicant is

equivalent to 'extract English-Japanese pairs which satisfied the simple condition ...

highest proximity' of Masuichi.)

Claim 20

Masuichi teaches selecting instances uncertain to the first classifier includes

selecting data in the certain data. (**Masuichi,** p1068, C1:19-42; 'Selecting instances

uncertain to the first classifier includes selecting data in the certain data' of applicant is

equivalent to 'extract English-Japanese pairs which satisfied the simple condition ...

highest proximity' of Masuichi.)

Claim 22

Masuichi teaches constructing a first classifier and a second classifier using

received labeled instances (**Masuichi,** p1067, C2:42 through p1068, C1:18;

Construction of a first and second classifier of applicant is equivalent to 'create an initial

word space' of the initial pairs of words of Masuichi.); using the first classifier to select

unlabeled instances that are certain with respect to the first classifier (**Masuichi,** p1068,

C1:19-42; 'Unlabeled instances' ... 'respect to the second classifier' of applicant is

equivalent to calculating '1000 English patent vectors' of Masuichi.) selecting instances

uncertain with respect to the second classifier data from among the instances certain

with respect to the first classifier to form a first set of unlabeled instances (**Masuichi,**

p1068, C1:19-42; 'Selecting instances uncertain to the second classifier ... with respect

to the first classifier to form a first set' of applicant is illustrated by 'Next we extracted the

English-Japanese patent pairs which satisfied the simple condition that the English

patent vector in the pair has (the biggest cosine) with the Japanese patent vector in the

pair among the 1000 Japanese patent vectors and vice versa' of Masuichi.) using the

second classifier to select unlabeled instances that are certain with respect to the

second classifier (**Masuichi,** p1068, C1:19-42; 'Unlabeled instances' ... 'respect to the

second classifier' of applicant is equivalent to calculating '1000 Japanese patent

vectors' of Masuichi.); and selecting instances uncertain with respect to the first

classifier from among the instances certain with respect to the second classifier to form

a second set of unlabeled instances. (**Masuichi,** p1068, C1:19-42; 'Selecting instances

uncertain to the first classifier ... with respect to the second classifier to form a second set' of applicant is illustrated by 'Next we extracted the English-Japanese patent pairs which satisfied the simple condition that the English patent vector in the pair has (the biggest cosine) with the Japanese patent vector in the pair among the 1000 Japanese patent vectors and vice versa' of Masuichi.) reconstructing the first classifier and the second classifier using the first set of unlabeled instances and the second set of unlabeled instances (**Masuichi,** p1068, C1:19-42; Reconstructing both first and second classifiers are done by catenation the 10 mutual proximity pairs to the initial 100 translation pairs of Masuichi.); and providing the reconstructed first classifier and the reconstructed second classifier for labeling textual data to ascertain a meaning of the textual data. (**Masuichi,** p1068, C1:42 through C2:2; Providing the reconstructed first and second classifiers of applicant is equivalent to the '110 English-Japanese pairs' of Masuichi.)

Claim 23

Masuichi teaches labeling the first set of unlabeled instances using the first classifier to form a first labeled set; labeling the second set of unlabeled instances using the second classifier; to form a second labeled set; adding the first labeled set and the second labeled set to the received labeled instances to form an augmented set. (**Masuichi,** p1068, C1:19-42; 'Labeling the first set of unlabeled instances using the first classifier to form a first labeled set' and 'labeling the second set of unlabeled instances using the second classifier; to form a second labeled set' of applicant is illustrated by

'Next we extracted the English-Japanese patent pairs which satisfied the simple

condition that the English patent vector in the pair has (the biggest cosine) with the

Japanese patent vector in the pair among the 1000 Japanese patent vectors and vice

versa' of Masuichi.)

Claim 24

Masuichi teaches reconstructing the first classifier and the second classifier using

the augmented set. (**Masuichi,** p1068, C1:43 through C2:2; 'Reconstruction' of

applicant is disclosed by the now increased '110 English-Japanese pairs' of Masuichi.)

Claim 25

Masuichi teaches reconstructing the first and the second classifiers includes

iteratively reconstructing the first and the second classifiers for each class of unlabeled

instances. (**Masuichi,** p1068, C1:43 through C2:8; reconstruction by 'iteration' of

applicant is equivalent to 'Nth stage' of Masuichi.)

Claim 26

Masuichi teaches wherein the modified first classifier and the modified second

classifier are provided to perform one of web pages classification, bilingual

bootstrapping and news article classification. (**Masuichi,** abstract; 'Bootstrapping' of

applicant is equivalent to 'boot strapping' of Masuichi.)

Claim 27

Masuichi teaches receiving labeled data (**Masuichi,** p1067, C2:42 through

p1068, C1:18; 'Labeled data' of applicant is equivalent to '100 pairs' of a training corpus

of Masuichi.); receiving unlabeled data (**Masuichi,** p1067, C2:42 through p1068, C1:18;

'Unlabeled data' of applicant is equivalent to '1000 English-Japanese patent text pairs'

of Masuichi.); constructing a first classifier and a second classifier using the labeled

data (**Masuichi,** p1067, C2:42 through p1068, C1:18; Construction of a first and second

classifier of applicant is equivalent to 'create an initial word space' of the initial pairs of

words of Masuichi.); using the first classifier to select some of the unlabeled data that is

certain with respect to the first classifier (**Masuichi,** p1068, C1:19-42; 'Unlabeled data'

... 'respect to the first classifier' of applicant is equivalent to calculating '1000 English

patent vectors' of Masuichi.); selecting unlabeled data uncertain with respect to the

second classifier from among the unlabeled data that is certain with respect to the first

classifier to form a first set of unlabeled data (**Masuichi,** p1068, C1:19-42; 'Selecting

unlabeled data' with respect to the 'second classifier' to 'form a first set' of applicant is

illustrated by 'Next we extracted the English-Japanese patent pairs which satisfied the

simple condition that the English patent vector in the pair has (the biggest cosine) with

the Japanese patent vector in the pair among the 1000 Japanese patent vectors and

vice versa' of Masuichi.); and using the second classifier to select some of the

unlabeled data that is certain with respect to the second classifier (**Masuichi,** p1068,

C1:19-42; 'Unlabeled data' ... 'respect to the second classifier' of applicant is equivalent

to calculating '1000 Japanese patent vectors' of Masuichi.); and selecting unlabeled

data uncertain with respect to the first classifier from among the unlabeled data that is certain with respect to the second classifier to form a second set of unlabeled data (**Masuichi,** p1068, C1:19-42; 'Selecting unlabeled data' with respect to the 'first classifier' to 'form a second set' of applicant is illustrated by 'Next we extracted the English-Japanese patent pairs which satisfied the simple condition that the English patent vector in the pair has (the biggest cosine) with the Japanese patent vector in the pair among the 1000 Japanese patent vectors and vice versa' of Masuichi.) reconstructing the first classifier and the second classifier based on the first set of unlabeled data (**Masuichi,** p1068, C1:19-42; Reconstructing both first and second classifiers are done by catenation the 10 mutual proximity pairs to the initial 100 translation pairs of Masuichi.); and providing the reconstructed first classifier and the reconstructed second classifier for use in labeling textual data to ascertain a meaning of the textual data. (**Masuichi,** p1068, C1:42 through C2:2; Providing the reconstructed first and second classifiers of applicant is equivalent to the '110 English-Japanese pairs' of Masuichi.)

Claim 28

Masuichi teaches receiving unlabeled data includes receiving data capable of being assigned to classes, and wherein receiving labeled data includes receiving data assigned to classes. (**Masuichi,** p1067, C2:5-29; 'Data assigned to classes' of applicant is equivalent to 'n content bearing words' of Masuichi.)

Claim 29

Masuichi teaches reconstructing the first and the second classifier for each class. (**Masuichi,** p1068, C1:43 through C2:2; 'Reconstruction' of applicant is disclosed by the now increased '110 English-Japanese pairs' of Masuichi.)

Claim 30

Masuichi teaches applying the first classifier to the first unlabeled set to form a first labeled set; and applying the second classifier to the second labeled set to form a second labeled set. (**Masuichi,** p1068, C1:19-42; First and second 'labeled sets' of applicant is equivalent to 'extract English-Japanese pairs' of Masuichi.)

Claim 31

Masuichi teaches augmenting the received labeled data with the first labeled set and the second labeled set to form an augmented set. (**Masuichi,** p1068, C1:19-42; The formation of an 'augmented set' of applicant is equivalent to 'concatented the 10 mutual-proximity pairs to the initial 100 translation pairs' of Masuichi.)

Claim 32

Masuichi teaches using the augmented set of labeled data to retrain the first classifier and the second classifier to form a retrained first classifier and a retrained second classifier. (**Masuichi,** p1068, C1:43 through C2:2; Retraining the first and

second classifier of applicant is equivalent to 'created a new word space regarding the

110 English-Japanese pairs' of Masuichi.)

Claim 33

Masuichi teaches applying the first classifier to the first unlabeled set includes

calculating probabilities that the first classifier is unable to assign some unlabeled data

to classes. (**Masuichi,** p1067, C2:5-29; 'Calculating probabilities' of applicant is

disclosed by the cosine of the angle between the two vectors of Masuichi.)

Claim 34

Masuichi teaches calculating probabilities includes calculating values of

uncertainty. (**Masuichi,** p1067, C2:5-29; 'Calculating probabilities' of applicant is

disclosed by the cosine of the angle between the two vectors of Masuichi. The greater

the cosine value, the lower the uncertainty probabilities.)

Claim 35

Masuichi teaches calculating values of uncertainty includes calculating values of

uncertainty relative to a predetermined threshold. (**Masuichi,** p1068, C1:

'Predetermined threshold' of applicant is disclosed by only the '10 most reliable mutual

proximity pairs' of Masuichi.)

Claim 36

Masuichi teaches receiving labeled data including instances of data and a label

for each instance, the label being indicative of an assigned class for each instance

(**Masuichi,** p1067, C2:42 through p1068, C1:18; 'Labeled data' of applicant is

equivalent to '100 pairs' of a training corpus of Masuichi.); receiving unlabeled data

including unlabeled instances of data (**Masuichi,** p1067, C2:42 through p1068, C1:18;

'Unlabeled data' of applicant is equivalent to '1000 English-Japanese patent text pairs'

of Masuichi.); constructing a first classifier and a second classifier with the received

labeled data (**Masuichi,** p1067, C2:42 through p1068, C1:18; Construction of a first and

second classifier of applicant is equivalent to 'create an initial word space' of the initial

pairs of words of Masuichi.); selecting a first portion of the unlabeled instances of data

that is uncertain for the first classifier (**Masuichi,** p1068, C1:19-42; 'Unlabeled data' ...

'Uncertain for the first classifier' of applicant is equivalent to calculating '1000 English

patent vectors' of Masuichi.); and assigning classes to the first portion of the unlabeled

data using instances of the second classifier to form a first labeled set (**Masuichi,**

p1068, C1:19-42; 'Assigning classes ... using the second classifier ... form a first set' of

applicant is illustrated by 'Next we extracted the English-Japanese patent pairs which

satisfied the simple condition that the English patent vector in the pair has (the biggest

cosine) with the Japanese patent vector in the pair among the 1000 Japanese patent

vectors and vice versa' of Masuichi.); selecting a second portion of the unlabeled data

that is uncertain for the second classifier (**Masuichi,** p1068, C1:19-42; 'Unlabeled data'

... 'uncertain for the second classifier' of applicant is equivalent to calculating '1000

Japanese patent vectors' of Masuichi.); and assigning classes to the second portion of

the unlabeled instances of data uncertain for the second classifier using the first

classifier to form a second labeled set (**Masuichi,** p1068, C1:19-42; 'Assigning classes

... using the second classifier ... form a second set' of applicant is illustrated by 'Next

we extracted the English-Japanese patent pairs which satisfied the simple condition that

the English patent vector in the pair has (the biggest cosine) with the Japanese patent

vector in the pair among the 1000 Japanese patent vectors and vice versa' of

Masuichi.); reconstructing the first classifier and the second classifier based on the first

labeled set and the second labeled set (**Masuichi,** p1068, C1:19-42; Reconstructing

both first and second classifiers are done by catenation the 10 mutual proximity pairs to

the initial 100 translation pairs of Masuichi.); and providing the reconstructed first

classifier and the reconstructed second classifier for use in labeling data. (**Masuichi,**

p1068, C1:42 through C2:2; Providing the reconstructed first and second classifiers of

applicant is equivalent to the '110 English-Japanese pairs' of Masuichi.)

Claim 38

Masuichi teaches wherein the modified first classifier and the modified second

classifier are used for one of web page classification, bilingual bootstrapping and news

page classification. (**Masuichi,** abstract; 'Bootstrapping' of applicant is equivalent to

'boot strapping' of Masuichi.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Masuichi as set forth above, in view of Yu. ('Chinese-English bilingual speech

recognition', referred to as **Yu**)

Claim 13

Masuichi does not teach labeling the instances uncertain to the first classifier

includes assigning instances in the first labeled set to a first set of classes, and wherein

labeling the instances uncertain to the second classifier includes assigning instances in

the second labeled set to be a second set of classes.

Yu teaches labeling the instances uncertain to the first classifier includes

assigning instances in the first labeled set to a first set of classes, and wherein labeling

the instances uncertain to the second classifier includes assigning instances in the

second labeled set to be a second set of classes. (**Yu**, p605, Table 1; 'Classes' of

applicant is equivalent to 'phonemes' of Yu. First and second classifier of applicant is

equivalent to English and Chinese of Yu. Both languages are made up of phonemes.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masuichi by using classes as taught by Yu to labeling the instances uncertain to the first classifier includes assigning instances in the first labeled set to a first set of classes, and wherein labeling the instances uncertain to the second classifier includes assigning instances in the second labeled set to be a second set of classes.

For the purpose of using the basic element which is common to all languages and set them up as classes

Claim 14

Masuichi does not teach the first set of classes and the second set of classes are the same.

Yu teaches the first set of classes and the second set of classes are the same. (**Yu**, p606, Table 2; For a given phoneme of a word resides in the same phoneme class in both English and Chinese such as 'b'.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masuichi by having some classes in common as taught by Yu to have the first set of classes and the second set of classes are the same.

For the purpose of aiding the translation from one language into another.

Claim 15

Masuichi does not teach first set of classes and the second set of classes are different.

Yu teaches first set of classes and the second set of classes are different. (**Yu,** p606, Table 2; For a given phoneme of a word resides in different phoneme classes in English and Chinese such as 'e'.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masuichi by having some classes being different according to their respective classifier as taught by Yu to have the first set of classes and the second set of classes are different.

For the purpose of being able to bridge the differences of two different which is inherent among different languages.

Claim 16

Masuichi does not teach first set of classes and the second set of classes are mutually exclusive.

Yu teaches first set of classes and the second set of classes are mutually exclusive. (**Yu,** p606, Table 2; Far a given phoneme of a word which resides in classes which are mutually exclusive such as 'l' in Chinese.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masuichi by having some classes which are mutually exclusive as taught

by Yu to have the first set of classes and the second set of classes are mutually exclusive.

For the purpose of being able to handle data in which at times data is mutually exclusive due to the reality that not all classes overlap one another.

Claim 17

Masuichi does not teach first set of classes and the second set of classes overlap by having classes in common.

Yu teaches first set of classes and the second set of classes overlap by having classes in common. (**Yu,** p606, Table 2; Classes which are overlapping of applicant is disclosed by the class of 'glides' of Yu.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masuichi by having some classes overlapping classes from another classifier as taught by Yu to have the first set of classes and the second set of classes overlap by having classes in common.

For the purpose of being able to handle data in which at times data is overlapping due to the reality that not all classes are mutual independent.

Response to Arguments

5.   Applicant's arguments filed on October 29, 2007 for claims 1-9, 11-36, 38 have

been fully considered but are not persuasive.

6.   In reference to the Applicant's argument:

CLAIM REJECTIONS 35 U.S.C. § 112

Claim 4 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with
the written description requirement. In particular, claim 4 has the phrase "function of
uncertainty". As noted above with regard to claim 5, uncertainty is defined on page 14 of
the specification. As a result, withdrawal of this rejection is requested.

Examiner's response:

    The Examiner withdraws the rejection.

7.   In reference to the Applicant's argument:

Claims 1, 22, 27 and 36 were rejected under 35 U.S.C. § 112, first paragraph, as failing
to comply with the written description requirement. In particular, the Examiner alleges
that "modifying the first classifier and the second classifier", the first classifier being
based on a set and the second classifier being based on the set is not disclosed. As
mentioned above, Applicants invite the Examiner to review the Application with regard
to FIGS. 6 and 7 wherein the classifiers are re-constructed using data sets that augment
an overall labeled set. Based on the amendments to these independent claims,
withdrawal of the rejections under 35 U.S.C. § 112 is respectfully requested.

Examiner's response:

    The Examiner withdraws the rejection.

8.   In reference to the Applicant's argument:

Claims 8 and 18-21 were rejected under 35 U.S.C. § 112 for having the term
"relative" which renders the claim indefinite. Applicants note that claim 8 has been
amended to insert "compared" instead of "relative". Furthermore, the terms "relatively"
has been removed from claims 18-21. As a result, withdrawal of the rejections under 35
U.S.C. § 112 are respectfully requested.

Examiner's response:

The Examiner notes the amendments and withdraws the rejection.

9.   In reference to the Applicant's argument:

Applicants reject the assertion that the claimed invention can be used only as a
web page classification algorithm and not that the independent claims do not contain
this language.

Examiner's response:

The Examiner is allowed to search the application for a real world practical

application. Within the background section of the application the Examiner found that

the invention can be used for classification of a web page. With this leap of determining

this is the practical the Examiner withdrew the 35 U.S.C. §101 rejection. With the

statement made by the applicant, that the invention can be used for other purposes

other than classification of a web page, the Examiner is now inquiring what is the

practical application for the invention and reinstates the §101 rejection.

Examination Considerations

10.   The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The

Examiner has the full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in

meaning.

11.   Examiner's Notes are provided to assist the applicant to better understand the

nature of the prior art, application of such prior art and, as appropriate, to further

indicate other prior art that maybe applied in other office actions. Such comments are

entirely consistent with the intent and sprit of compact prosecution. However, and

unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that

one of ordinary skill in the art would find inherently appropriate.

12.   Examiner's Opinion: Paragraphs 10 and 11 apply. The Examiner has full

latitude to interpret each claim in the broadest reasonable sense.

Conclusion

13.   The prior art of record and not relied upon is considered pertinent to the

applicant's disclosure.

      -U. S. Patent Publication 20030204400: Marcu

      -U. S. Patent Publication 20030154071: Shreve

      -U. S. Patent Publication 20020026456: Bradford

14.   Claims 1-9, 11-36, 38 are rejected.

Correspondence Information

15.   Any inquiry concerning this information or related to the subject disclosure should

be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-

5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45

p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor David Vincent can be reached at (571) 272-3080. Any response to this

office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 272-3150 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

unpublished applications is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions

on access to Private PAIR system, contact the Electronic Business Center (EBC) at

866-217-9197 (toll free).

Peter Coughlan

1/30/2008

DAVID VINCENT 1/08
SUPERVISORY PATENT EXAMINER